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EXAMINER
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

	Application No.	Applicant(s)
	10/776,677	OLIVER ET AL.
Office Action Summary	Examiner	Art Unit	
	PHILIP LEE	2453	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *29 December 2011*.
2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.
3) ☐ An election was made by the applicant in response to a restriction requirement set forth during the interview on _____; the restriction requirement and election have been incorporated into this action.
4) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

5) ☒ Claim(s) *1,3-11,13-17,19-21 and 23-35* is/are pending in the application.
    5a) Of the above claim(s) _____ is/are withdrawn from consideration.
6) ☐ Claim(s) _____ is/are allowed.
7) ☒ Claim(s) *1,3-11,13-17,19-21 and 23-35* is/are rejected.
8) ☐ Claim(s) _____ is/are objected to.
9) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

10) ☐ The specification is objected to by the Examiner.
11) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
12) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a) ☐ All   b) ☐ Some * c) ☐ None of:
       1. ☐ Certified copies of the priority documents have been received.
       2. ☐ Certified copies of the priority documents have been received in Application No. _____.
       3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO/SB/08)
    Paper No(s)/Mail Date *2/1/11*.

4) ☐ Interview Summary (PTO-413)
    Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____ .

1.   This action is responsive to the amendment filed on December 29, 2011.

2.   Claims 1, 3-11, 13-17, 19-21 and 23-35 are presented for examination and claims 2, 12,

18, 22 and 36 are canceled.

3.   The text of those sections of Title 35, U.S. code not included in this office action can be

found in a prior office action.

Objection

4.   Claim 35 is objected to because of the following typographical error: Line 8, "an IF

address" should be "an IP address". Claim 33 is objected to because of the following

typographical error: Line 1, "3D" should be "30". Appropriate correction is required.

Claim Rejections - 35 USC § 112

5.   The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and
> using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or
> with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by
> the inventor of carrying out his invention.

7.   Claims 1 and 35 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply

with the written description requirement. The claim(s) contains subject matter which was not

described in the specification in such a way as to reasonably convey to one skilled in the relevant

art that the inventor(s), at the time the application was filed, had possession of the claimed

invention. Although the specification described the whitelist is overridden and the received

message is classified as spam in accordance with the score assigned to the address-domain pair,

however, the disclosure does not describe the spam classification based on *no common*

classification across the plurality of IP addresses associated with the domain. It is noted that the

examples disclosed in pages 15 and 16 of the specification are based on common classification.

Claim Rejections - 35 USC § 103

6.   Claims 1, 3, 5, 7-10, 13-17, 19, 28, 30-31 and 33-35 are rejected under 35 U.S.C. 103(a)

as being unpatentable over Kirsch, US Patent 7,206,814 (hereinafter Kirsch) in view of Wang,

US Patent Application Publication 2008/0040439 (hereinafter Wang).

7.   As per claims 1 and 35, Kirsch teaches the invention substantially as claimed,

comprising: maintaining a reputation table in memory (i.e., list of information regarding the

actual senders), the reputation table including information regarding a plurality of address-

domain pairs(i.e., actual senders are identified by IP and domain pair), each of the plurality of

address-domain pairs indicating an IP address and an associated domain of a previously received

message (col. 3, lines 7-13; col. 9, lines 2—31; col. 11, lines 24-30; col. 16, lines 27-32), the

information regarding each of the plurality of address-domain pairs including a score based on

one or more classification variables (i.e., scores are ratio of classification variables) (col. 11,

lines 24-60);

receiving the message transmitted over the network and addressed to a recipient (col. 4, line 66-col. 5, line 12); and

executing instructions stored in a non-transitory computer readable storage medium to:

determine an associated domain from which the received message is purported to be sent (col. 4, line 66-col. 5, line 12),

identify that the determined domain appears on a whitelist associated with the recipient(col. 4, line 66-col. 5, line 12),

determine an IP address corresponding to a device from which the received message was relayed (col. 7, lines 35-37),

associate the determined domain with the IP address to create an address-domain pair for the received message(col. 6, lines 10-40);

assign a score to the received message, the score comprising a ratio (col. 12, lines 12-13) of a first classification variable of the address-domain pair to a second classification variable of the address-domain pair as indicated by the reputation table, wherein the score is indicative of spam (col. 11, lines 24-60), and

classify the received message according to whether a common classification appears across a plurality of IP addresses associated with the domain (col. 9, lines 2-19 and col. 7, lines 1-4), wherein

the score is overridden and the received message is classified as good in accordance with the whitelist (col. 19, lines 7-14), the good classification based on a common classification (col. 9, lines 2-19) appearing across the plurality of IP addresses associated with the domain (col. 7, lines 1-4), and

the whitelist is overridden and the received message is classified as spam in accordance

with the score assigned to the address-domain pair (col. 19, lines 7-14), the spam classification

based on no common spam classification (col. 9, lines 2-19) appearing across the plurality of IP

addresses associated with the domain (col. 7, lines 1-4).

8.   Kirsch does not teach variable decaying with time. Wang teaches the one or more

classification variables decaying with time ([0046], [0047] and claims 5 and 22).

9.   It would have been obvious to one having ordinary skill in the art at the time of the

invention was made to combine the teachings of Kirsch and Wang because Wang's teaching of

variables decaying with time would increase the security of their system by allowing their system

to determine whether to accept or reject messages on the basis of the classification of the sender.

10.   As per claim 3, Kirsch and Wang teach the invention substantially as claimed in claim 1

above. Kirsch further teach classifying the received message is further based on classification

variables associated with another address-domain pair (i.e., classification based on range of IP

combined with certain domain name), the other address- domain pair having a related IP address

or related domain (col. 2, lines 58-64; col. 6, line 59-col. 7, line 4).

11.   As per claim 5, Kirsch and Wang teach the invention substantially as claimed in claim 1

above. Kirsch further teach wherein a plurality of IP addresses is associated with the domain

(col. 2, lines 63-64).

12.   As per claim 7, Kirsch and Wang teach the invention substantially as claimed in claim 1

above. Kirsch further teaches wherein the IP address is a boundary IP address (col. 7, line 30).

13.   As per claim 8, Kirsch and Wang teach the invention substantially as claimed in claim 1

above.   Kirsch further teach wherein the IP address is preconfigured (col. 4, line 66-col. 5, line

6).

14.   As per claim 9, Kirsch and Wang teach the invention substantially as claimed in claim 1

above. Although Kirsch teaches wherein the IP address is preconfigured (col. 4, line 66-col. 5,

line 6), however, Kirsch and Wang do not specifically teaches including wherein the IP address

is preconfigured to be one hop from a gateway IP address. It would have been obvious to one

having ordinary skill in the art at the time of the invention was made to include IP address

preconfigured to be one hop or any hop from a gateway IP address because by doing so it would

increase the user control by allowing configuration according to the user's design choice.

15.   As per claim 10, Kirsch and Wang teach the invention substantially as claimed in claim 1

above. Kirsch further teach wherein the IP address is learned (col. 1, lines 24-25) (learned from

the header).

16.   As per claim 13, Kirsch and Wang teach the invention substantially as claimed in claim

10 above. Kirsch further teach wherein the IP address is a boundary IP address (col. 7, line 30)

and wherein the boundary IP address is learned by detecting a pattern in a certain number of

previously received messages (col. 7, lines 20-45).

17.   As per claim 14, Kirsch and Wang teach the invention substantially as claimed in claim 1

above. Kirsch further teach wherein determining the domain from which the received message is

purported to be sent includes identifying the stated sender domain associated with the received

message (col. 7, lines 55-64).

18.   As per claim 15, Kirsch and Wang teach the invention substantially as claimed in claim 1

above. Kirsch further teaches wherein the domain is a domain associated with a boundary IP

address (col. 7, lines 30, 49-54).

19.   As per claim 16, Kirsch and Wang teach the invention substantially as claimed in claim 1

above. Kirsch further teach wherein classifying the received message is further based on

consulting a white list (col. 8, lines 31-38).

20.   As per claim 17, Kirsch and Wang teach the invention substantially as claimed in claim 1

above. Kirsch further teach wherein classifying the received message is further based on

previous classifications made to the address-domain pair (col. 12, lines 1-30).

21.   As per claim 19, Kirsch and Wang teach the invention substantially as claimed in claim 1

above. Kirsch further teach determining a spam ratio (col. 12, lines 12-14).

22.   As per claim 28, Kirsch and Wang teach the invention substantially as claimed in claim 1

above. Kirsch further teaches providing the classification of the received message based on the

address-domain pair as input to another classifier (col. 8, lines 17-62).

23.   As per claim 30, Kirsch and Wang teach the invention substantially as claimed in claim 1

above. Kirsch further teach wherein classifying the received message is further based on a score

assigned to the IP address (col. 12, lines 24-30).

24.   As per claim 31, Kirsch and Wang teach the invention substantially as claimed in claim 1

above. Kirsch further teach wherein classifying the received message is further based on a score

assigned to the domain (col. 12, lines 24-30).

25.   As per claim 33, Kirsch and Wang teach the invention substantially as claimed in claim

30 above. Kirsch further teach comprising determining a score assigned to the IP address

(Kirsch, col. 12, lines 1-30).

26.   As per claim 34, Kirsch and Wang teach the invention substantially as claimed in claim

31 above. Kirsch further teach comprising determining a score assigned to the domain (Kirsch,

col. 12, lines 1-30).

27.   Claims 4 and 32 rejected under 35 U.S.C. 103(a) as being unpatentable over Kirsch and

Wang as applied to claim 1 above, and further in view of Lalonde et al, US Patent Application

Publication 2004/0068542 (hereinafter Lalonde).

28.   As per claim 4, Kirsch and Wang teach the invention substantially as claimed in claim 1

above. Kirsch and Wang do not the other message being associated with IP addresses other than

the IP address of the message. Lalonde teaches wherein classifying the received message is

further based on classifications of other messages associated with the domain of the received

message (i.e., checking the blacklist) ([0042]), the other message further being associated with IP

addresses other than the IP address of the received message ([0039]).

29.   It would have been obvious to one having ordinary skill in the art at the time of the

invention was made to combine the teachings of Kirsch, Wang and Lalonde because Lalonde's

teaching of further classification of the message would increase the security of Kirsch's and

Wang's systems by further indentifying associated information regarding a message in order to

determine and to filter unwanted message.

30.   As per claim 32, Kirsch and Wang teach the invention substantially as claimed in claim 1

above. Although Kirsch teaches classifying the message based on a score assigned to the

domain (col. 12, lines 24-30), however, Kirsch and Wang do not determining the received

message was forged. Lalonde teaches wherein classifying includes classifying the message

based on the domain and determining that the received message was forged ([0038]).

31.   It would have been obvious to one having ordinary skill in the art at the time of the

invention was made to combine the teachings of Kirsch, Wang and Lalonde because Lalonde's

teaching of further classification of the message would increase the security of Kirsch's and

Wang's systems by further indentifying associated information regarding a message in order to

determine and to filter unwanted message.

32.   Claims 6, 11, 20-21 and 23-27 rejected under 35 U.S.C. 103(a) as being unpatentable

over Kirsch and Wang as applied to claim 1 above, and further in view of Murray et al, U.S.

Patent 7,366761 (hereinafter Murray).

33.   As per claim 6, Kirsch and Wang teach the invention substantially as claimed in claim 1

above. Kirsch and Wang do not teach the IP address is associated with a plurality of domains.

Murray teaches wherein the IP address is associated with plurality of domains (col. 7, line 65-

col. 8, line 4).

34.   It would have been obvious to one having ordinary skill in the art at the time of the

invention was made to combine the teachings of Lalonde, Kirsch, Wang and Murray because

Murray's teaching of the IP address is associated with plurality of domains would increase the

effectiveness of their system by allowing identification of the IP address is associated with the

domain in order to filter unwanted e-mails based on sender information.

35.   As per claim 11, Kirsch and Wang teach the invention substantially as claimed in claim 1 above. Kirsch and Wang do not teach including the IP address is adaptively determined. Murray teaches wherein the IP address is adaptively determined (col.3, lines 25-27).

36.   It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Kirsch, Wang and Murray because Murray's teaching of the IP address is adaptively determined would increase the effectiveness of their system by allowing determination of the IP address in order to filter unwanted e-mails based on sender information.

37.   As per claim 20, Kirsch and Wang teach the invention substantially as claimed in claim 1 above. Kirsch and Wang do not specifically teach a spam rate.   Murray teaches determining a spam rate (col. 10, lines 53-65).

38.   It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Kirsch, Wang and Murray because Murray's teaching of determining a spam rate would increase the effectiveness of their system by allowing identification of unwanted e-mails based on spam rate.

39.   As per claim 21, Kirsch and Wang teach the invention substantially as claimed in claim 1 above. Kirsch and Wang do not specifically teach a spam rate. Murray teaches determining an estimated instantaneous spam rate (col. 10, lines 53-65; col. 11, lines 24-27).

40.   It would have been obvious to one having ordinary skill in the art at the time of the

invention was made to combine the teachings of Kirsch, Wang and Murray because Murray's

teaching of determining a spam rate would increase the effectiveness of their system by allowing

identification of unwanted e-mails based on spam rate.

41.   As per claim 23, Kirsch and Wang teach the invention substantially as claimed in claim 1

above. Kirsch and Wang do not teach giving a classification weight relative to another

classification. Murray teaches wherein classifying the received message includes giving a

classification variable greater weight relative to another classification variable (col. 9, lines 20-

31).

42.   It would have been obvious to one having ordinary skill in the art at the time of the

invention was made to combine the teachings of Kirsch, Wang and Murray because Murray's

teaching of giving a classification greater weight relative to another classification would increase

the effectiveness of their system by allowing unwanted e-mails to be accurately identified based

on sender's reputation.

43.   As per claim 24, Kirsch and Wang teach the invention substantially as claimed in claim 1

above. Kirsch and Wang do not teach giving a classification weight relative to a computer

classification. Murray teaches wherein classifying the received message includes giving a

classification variable associated with user greater weight relative to a classification variable

associated with computer classification (col. 8, lines 44-50; col. 9, lines 20-31).

44.   It would have been obvious to one having ordinary skill in the art at the time of the

invention was made to combine the teachings of Kirsch, Wang and Murray because Murray's

teaching of giving a classification greater weight relative to a computer classification would

increase the effectiveness of their system by allowing unwanted e-mails to be accurately

identified based on complied sender's reputation.

45.   As per claim 25, Kirsch and Wang teach the invention substantially as claimed in claim 1

above. Kirsch and Wang do not teach giving weight of a good classification. Murray teaches

wherein classifying the received message includes giving an indeterminate classification a

fraction of the weight of a good classification (col. 9, lines 20-31).

46.   It would have been obvious to one having ordinary skill in the art at the time of the

invention was made to combine the teachings of Kirsch, Wang and Murray because Murray's

teaching of giving weight to a good classification would increase the effectiveness of their

system by allowing unwanted e-mails to be accurately identified based on sender's good

reputation.

47.   As per claims 26 and 27, Kirsch and Wang teach the invention substantially as claimed in

claim 1 above. Although Kirsch teaches the reputation table (col. 3, lines 7-13; col. 9, lines 20-

31), however, Kirsch and Wang do not specifically teach the table indexed by IP address and domain. Murray teaches wherein the table is indexed by IP address and domain wherein each cell includes information about previous classifications (col. 9, lines 32-40).

48.   It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Kirsch, Wang and Murray because Murray's teaching of consulting a table of IP address and domain would increase the effectiveness of their system by allowing unwanted e-mails to be accurately identified based on sender's information.

49.   Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kirsch and Wang as applied to claim 1 above, and further in view of Appleman, U.S. Patent Application Publication 2005/0076240 (hereinafter Appleman).

50.   As per claim 29, Kirsch and Wang teach the invention substantially as claimed in claim 1 above. Kirsch and Wang do not specifically teach a Bayesian classifier. Appleman teach wherein the other classifier is a Bayesian classifier ([0058]).

51.   It would have been obvious to one having ordinary skill in the art at the time of the invention was made to combine the teachings of Kirsch, Wang and Appleman because Appleman's teaching of providing the IP address and domain classification as input to a Bayesian classifier would increase the effectiveness of their system by allowing unwanted e-mails to be accurately identified based on sender's information.

52.   Applicant's arguments filed on 12/29/11 with respect to claims 1, 3-11, 13-17, 19-21 and

23-35 have been considered but they are not persuasive.

53.   In the remarks, applicant argued that:

> (1)   The prior arts of record fail to teach classification of the received
>
> message based on whether there is a common classification across IP
>
> addresses associated with the domain.

In response to point (1), Kirsch teaches if the sender is on the whitelist, the message is passed on

to the recipient (for instance, placed in the recipient's inbox) (col. 5, lines 60-62). Kirsch teaches

higher weight is given to *manual* (*explicit*) reversals of whitelist/blacklist status than *implicit*

rankings (where, for instance, a sender is *automatically* placed on a whitelist because of the

sender's reputation rather than a user explicitly placing the sender on the whitelist) (col. 18, lines

38-43). This means there is two types of whitelist, an explicit whitelist and an implicit whitelist.

Kirsch further teach the Inbox is periodically reevaluated to determine if the rating of any of

senders of messages in the inbox has changed. If the sender's reputation is no longer "good" and

the sender has not been *explicitly whitelisted* by the recipient, the message can be removed to a

spam folder and processed accordingly or deleted, depending on the rating and the recipient's

settings (col. 19, lines 7-14). This means message of sender in the whitelist (message in the

Inbox, i.e., *implicit whitelist not explicitly whitelisted*) can be changed to spam based on the

calculated reputation of the sender. A reputation of a sender is determined by a score used for

classification of the received message as good or spam. The score is determined based on a number of factors including recipients that have wished to receive or not to receive the message (col. 9, lines 2-19) (i.e., "common classification" as disclosed in page 15 of applicant's specification) from a sender that have information associated with a range of IP addresses associated with the domain (col. 7, lines 1-4).

54.   A shortened statutory period for reply to this Office action is set to expire THREE MONTHS from the mailing date of this action. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip C Lee whose telephone number is (571)272-3967. The examiner can normally be reached on 8 AM TO 5:30 PM Monday to Thursday and every other Friday. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Krista Zele can be reached on (571) 272-7288. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Philip C Lee/

Primary Examiner, Art Unit 2453